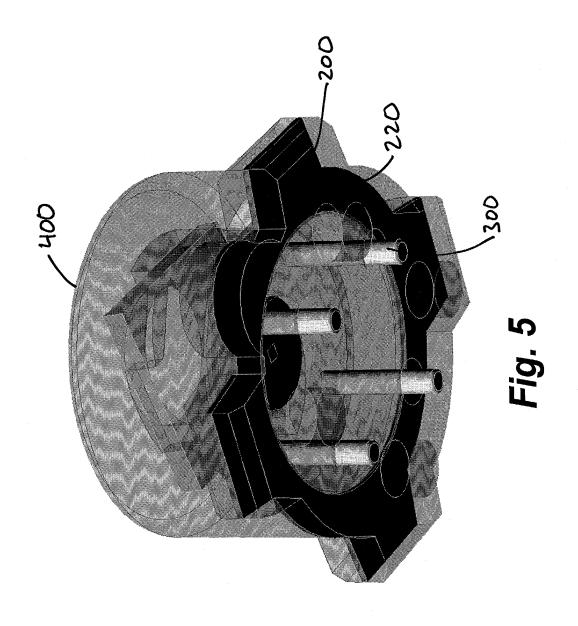
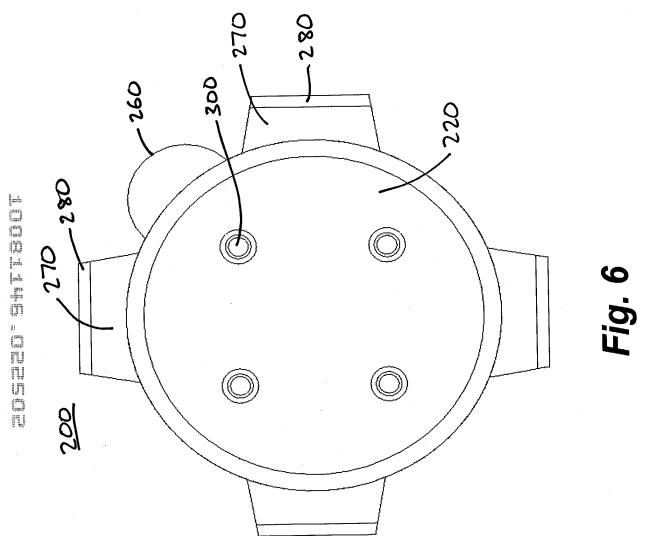
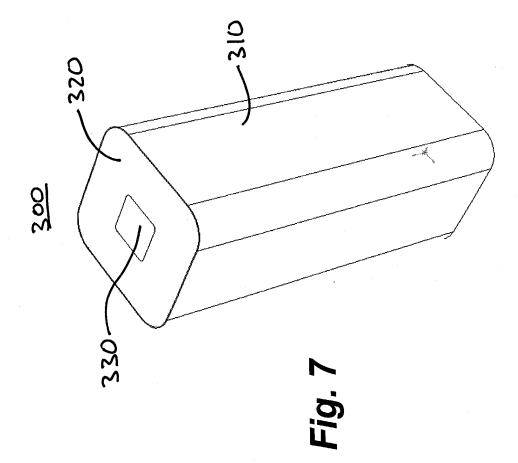
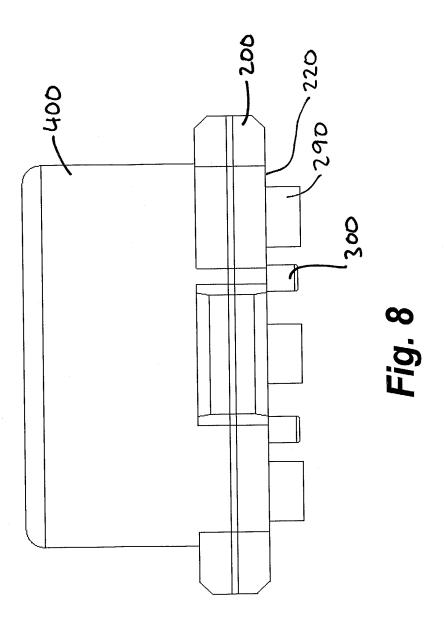


Fig. 4









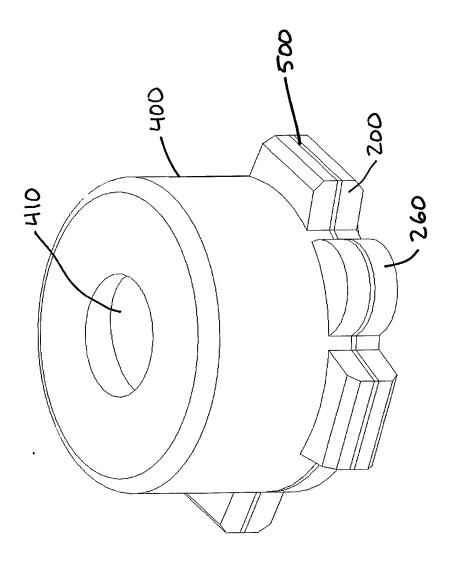


Fig. 9

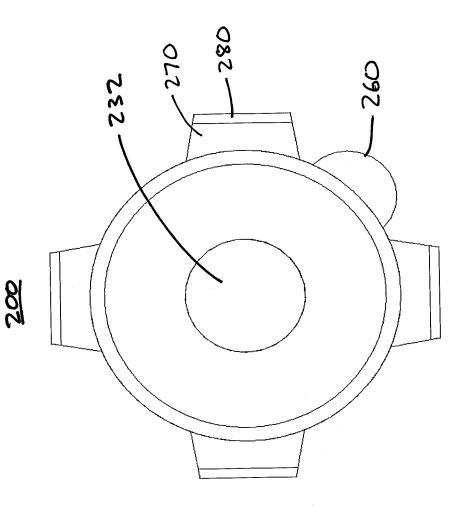


Fig. 10

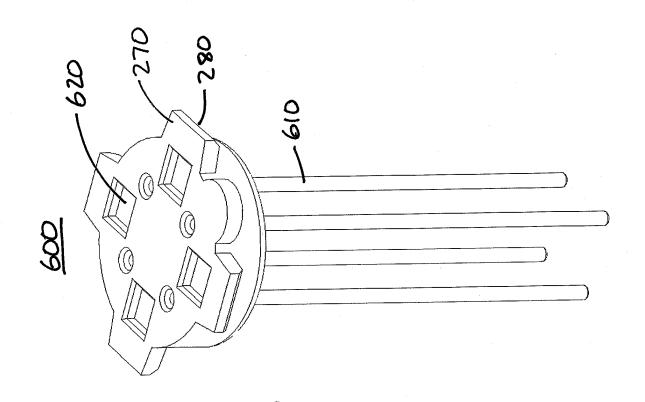


Fig. 11

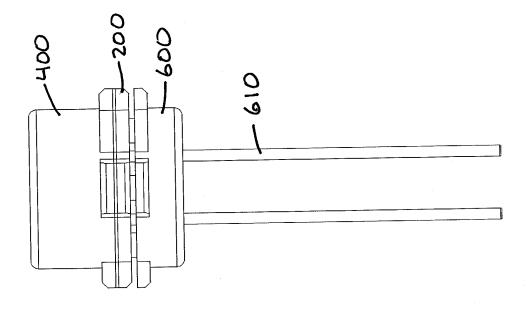


Fig. 12

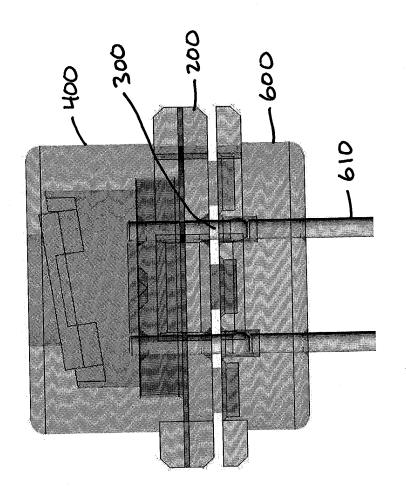


Fig. 13

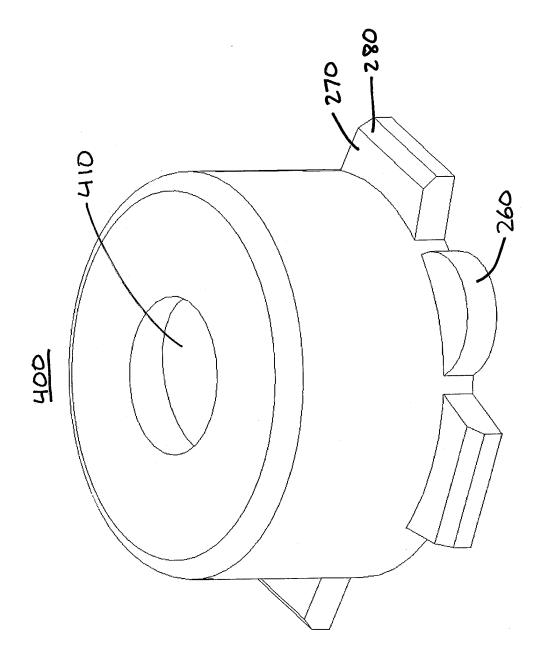


Fig. 14

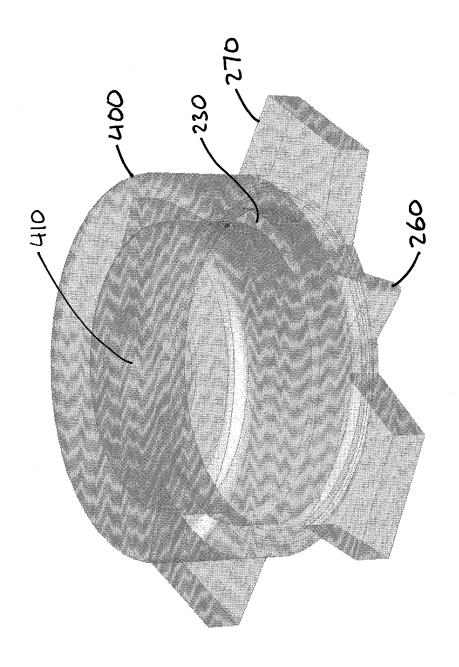


Fig. 15

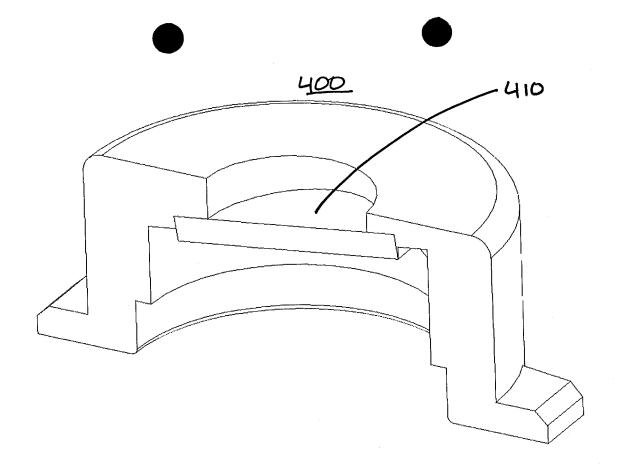
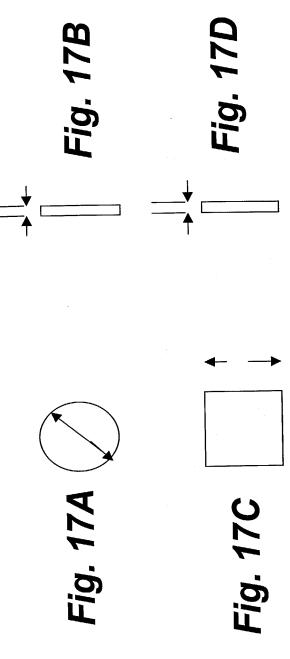


Fig. 16

Flat Window Example: Final dimension: 3.5X3.5X0.4mm



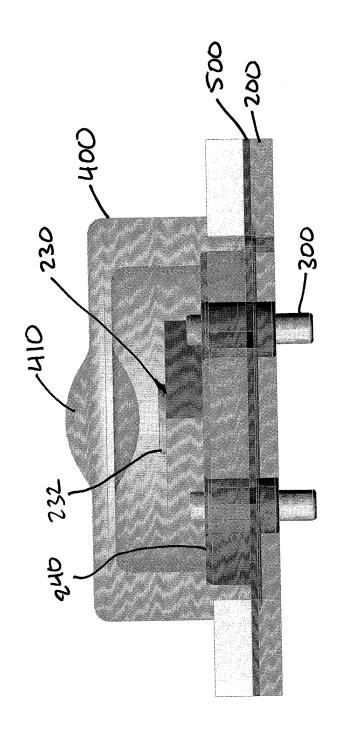


Fig. 18

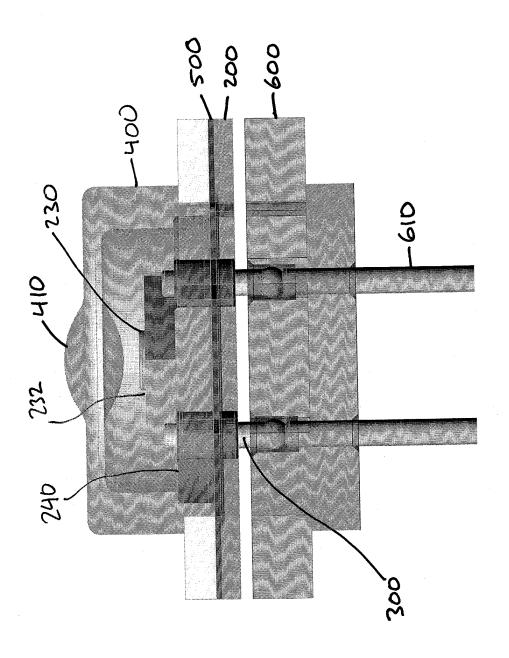


Fig. 19

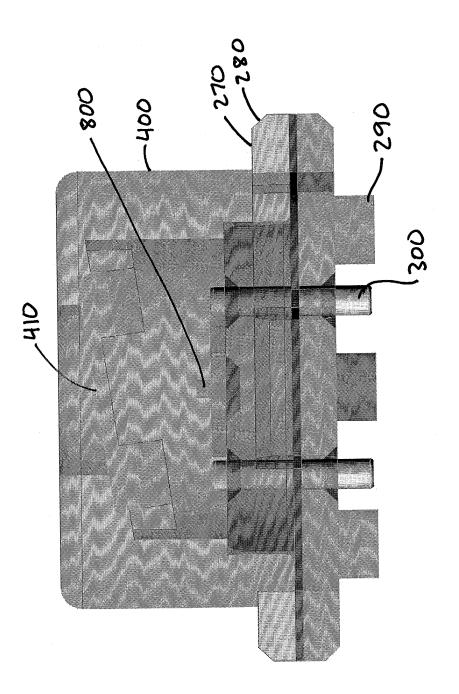


Fig. 20

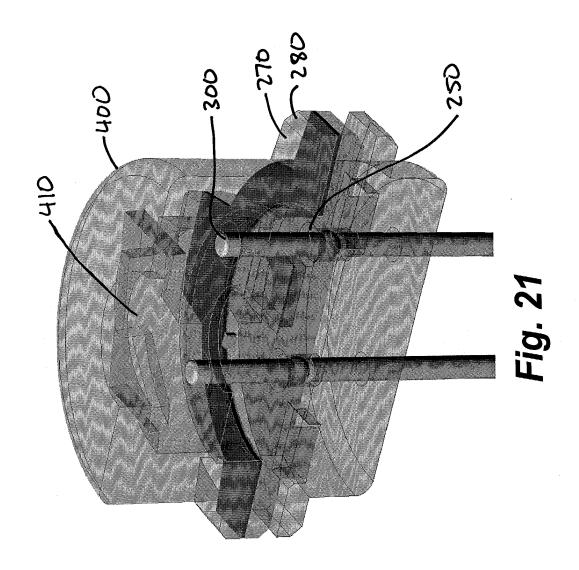
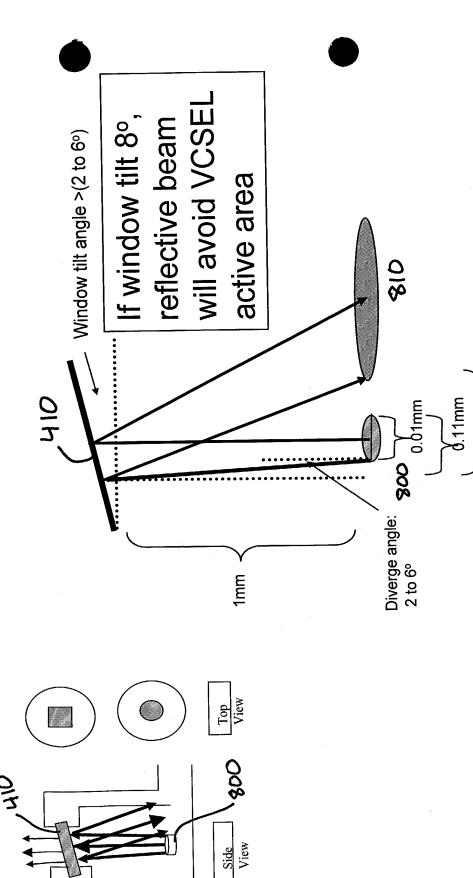
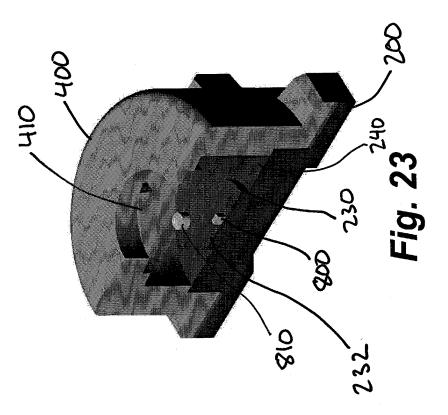


Fig. 22



0.14mm



Flat Window Analysis Example

Maximum: The diameter of the cap is: 4.5 to 4.9mm

Minimum: Cone diameter of light from VCSEL is: ~0.6mm

1 to 12 degree FWHM

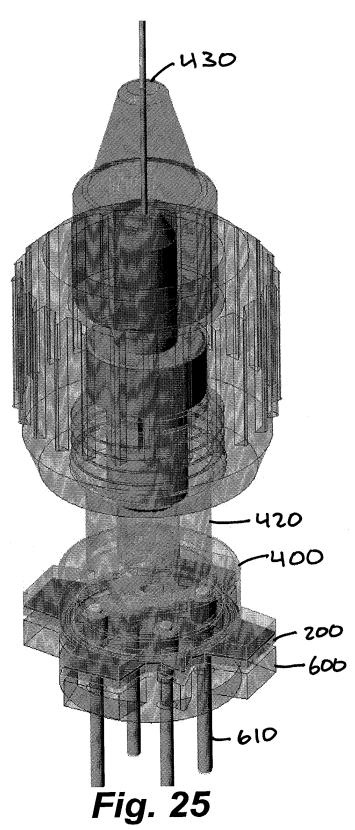
1 Diverge angle: 2 to 6°

VCSEL active area: 5 to 16 um

VOSEL active alea. 5 to 10 dill

 $1 \sim 4$ mm in diameter, $0.3 \sim 0.65$ mm in thickness. In this example, flat glass size may be:

Fig. 24



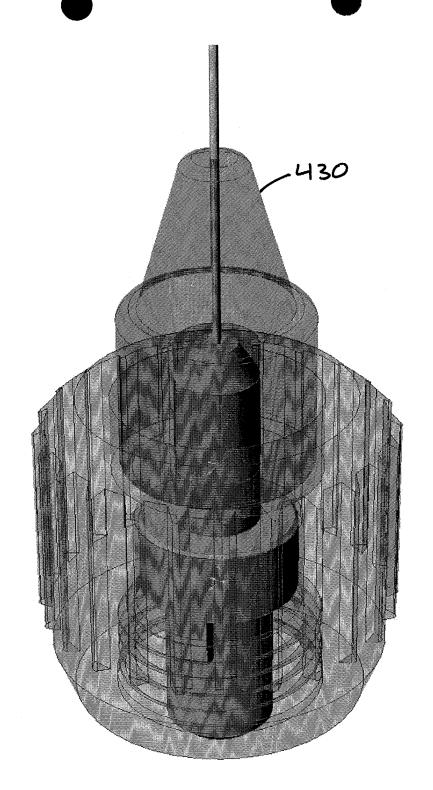
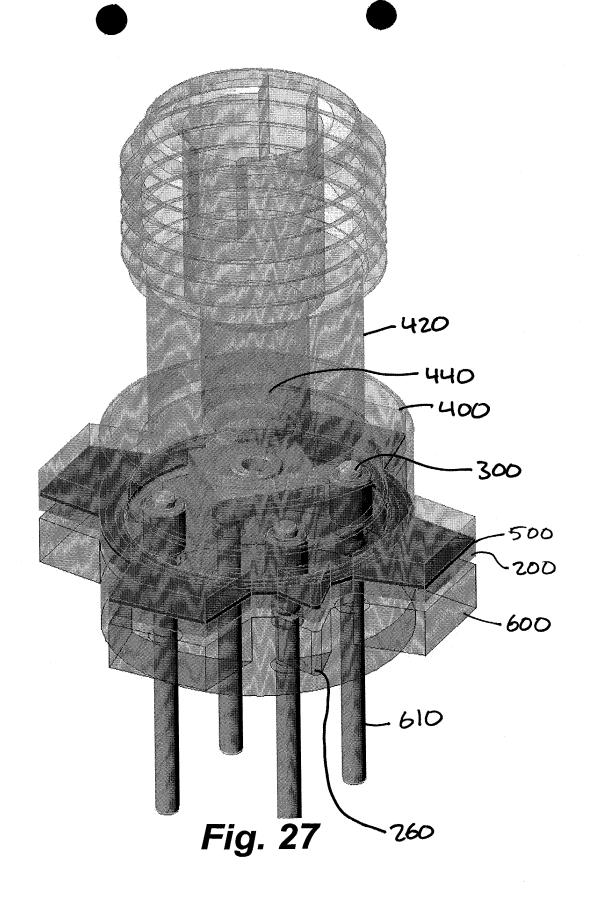
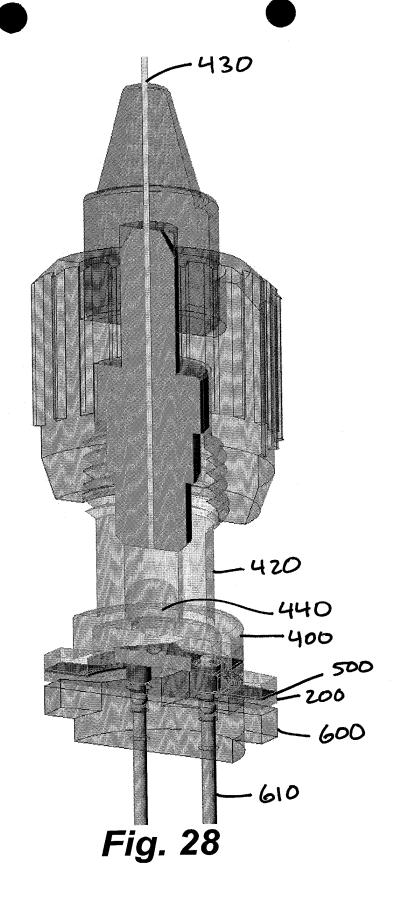
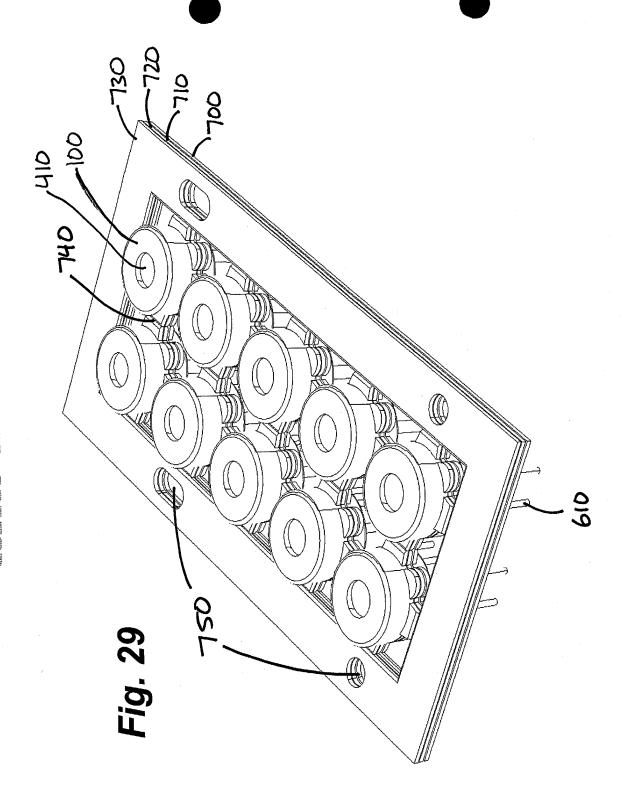


Fig. 26







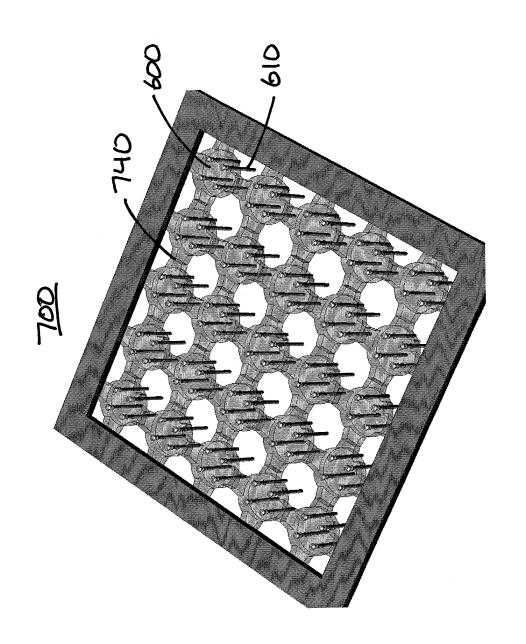


Fig. 30

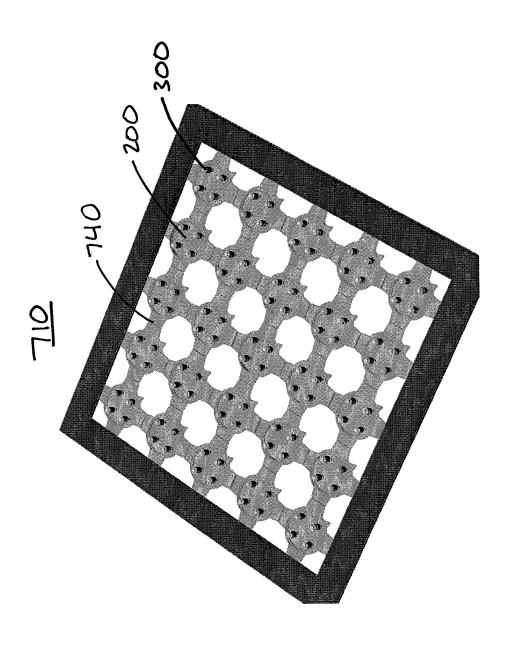


Fig. 31

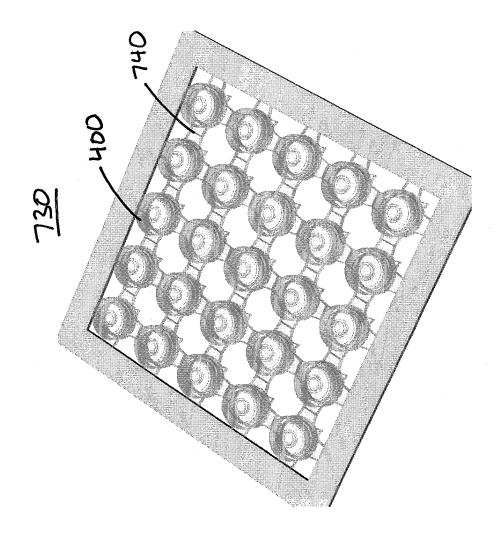


Fig. 32

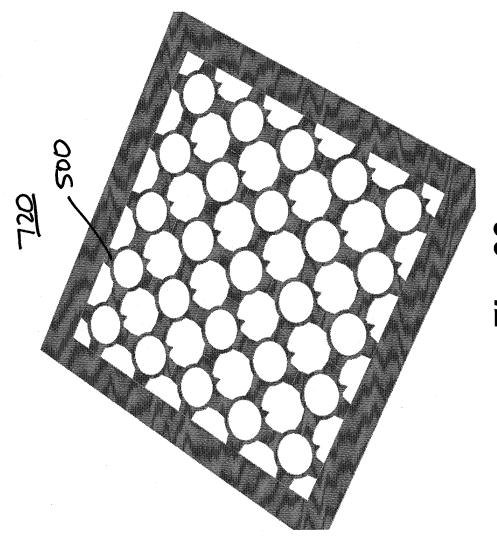


Fig. 33

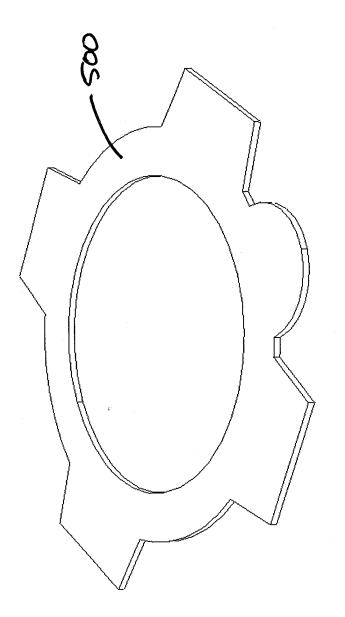


Fig. 34